

REMARKS

Claims 1-2, 6-7, 10-13, 17-21 and 24 remain pending after amendment.

Claim Amendments

By this amendment, claims 3, 15, 22, 23 and 27 are cancelled. The limitations of the cancelled claims are added to claims 1 and 7. The "web formed by carding" limitation for the second layer is supported at page 10, lines 16-17 of the specification. Claims 10 and 17 are amended accordingly. The dependency of claim 11 is amended. No new matter is added by this amendment.

Rejection of Claims 1-3 and 8-10 under 35 USC 103(a)

Claims 1-3 and 10 stand rejected under 35 USC 103(a) as being unpatentable over Vander Wielen U.S. Patent No. 4,720,415 in view of Schleinz et al U.S. Patent No. 5,612,118 and JP 09-003755.

This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response, claims 3 and 5 are cancelled and the limitations thereof added to claim 1. Claim 1 is also amended to

state that the second layer is formed by carding and is comprised of latent crimping fibers. Claims 1, 2 and 10 remain under rejection.

By way of review, in applicants' claimed invention, the bulky sheet material is comprised of first and second layers partly joined together, with the first layer having a number of fiber-filled protrusions, with the second layer comprising a web formed by carding comprising latent crimping fibers which are made of a thermoplastic polymer and exhibit thermal shrinkability and elastomeric behavior, and the first layer comprising a fiber aggregate which comprises fibers which are made of a thermoplastic polymer and which have substantially no thermal shrinkability or do not shrink at or below the thermal shrinkage temperature of the fibers exhibiting thermal shrinkability. The sheet is heat-treated at or above a temperature at which thermal shrinkage of the fibers constituting the second layer is initiated, whereby the second layer shrinks to form protrusions in the first layer.

Applicants' sheet material is formed by superimposing the first and second layers of fiber aggregate and subjecting the superimposed layers to heat treatment, whereby the elastomeric fiber aggregate of the second layer shrinks, while the fiber

aggregate of the first layer does not — thus forming the protrusions in the first layer due to the contraction (shrinkage) of the elastomeric second layer.

In order to enhance the absorbency of the sheet material, as well as the absorbent article which contains the sheet material, and to assist in maintaining the shape of the material, the sheet material includes protrusions in the first layer *filled with fibers*.

By contrast, the sheet material of Vander Wielen is formed by *elongating* an elastic web while bonding the *elongated* web to an adjacent gatherable layer. The elongated elastic web is then permitted to become relaxed at which time the gatherable layer becomes gathered at spaced apart locations. It is not the intent of the reference that the elastic web be heat shrinkable while retaining its elasticity as required by applicants' amended claim 1. In applicants' invention, "gathered portions" are formed in the adjacent non-heat shrinkable layer *upon shrinkage of the heat shrinkable layer*.

The above distinctions between the invention of Vander Wielen and applicants' claimed invention are material to the formation of the claimed product. Vander Wielen teaches that one layer is attached to another layer while one layer is

extended or stretched. If the extended layer is comprised of a fabric in which residual strain remains after being stretched, the layer may not return to the same length upon the strain being released.

However, if the extended layer does not return to its original length due to the existence of residual strain, the ability of the layer to produce the desired projections is reduced. If this disadvantageous result is sought to be avoided by reducing the amount of the extension, the ability to produce projections of the desired height is reduced. Additionally, the extension of the layer in both lateral and longitudinal directions causes many problems to result in the manufacturing process. In order to clarify this distinction, claim 1 is amended to state that the bulky sheet material has a recovery of 50% or more from 50% extension

Further, Vander Wielen limits its teachings to the presence of open gathers or pleats 16a (Figure 2A). This is in contrast to the presence of the fiber-filled protrusions in the first layer of applicants' claimed invention.

Vander Wielen thus not only fails to suggest the claimed invention, but teaches away from the claimed invention.

Schleinz is cited in an attempt to overcome such deficiencies of Vander Wielen. Schleinz teaches that a joined layer can be gathered by elastic fibers that are heat shrunk, citing column 8, lines 1-10. The Examiner accordingly takes the view that it would have been obvious to use heat shrinkable fibers to gather the web of Vander Wielen while avoiding the stretching step taught by Vander Wielen.

The deficiencies of Vander Wielen are discussed at length above. Such deficiencies are not cured by the Examiner's citation of Schleinz.

As argued previously, the elastic layer 52 of Schleinz is not a "carded web comprised of latent crimping fibers" as required in applicants' claims - the reference instead teaches that the layer 52 is comprised of "any suitable elastic material, and can be in the form of a flat sheet or layer of elastic material or a plurality of strands, ropes or the like, of elastic material." See column 4, lines 36-40 of the reference.

The Examiner's combination of Vander Wielen and Schleinz must fail for several reasons. First, Schleinz does not teach the use of a carded web as the elastic layer. Also, the cited combination must fail in view of the distinctions that exist

between the claimed invention and the teachings of Vander Wielen.

The reference also fails to teach the presence of "fiber-filled protrusions" in the first layer consistent with applicants' amended claims. Schleinz instead provides for the presence of unfilled open elevated portions 60.

Importantly, no motivation or suggestion resides in either of the references to replace the elastic layer of Vander Wielen with the heat shrinkable layer 52 of Schleinz, especially given the teachings of Vander Wielen in this regard. Indeed, the modification of Vander Wielen in the manner suggested by the Examiner would result in a sheet material of diminished permeability in contrast to that achieved by applicants' invention. Further, no modification or teachings exist in either of the cited references to provide for fiber-filled protrusions in the products of the references.

With respect to the limitations of claim 10, it is noted that claim 10 is directed to an embodiment wherein the first layer is comprised of one of a carded web, a nonwoven fabric, or a knitted fabric. The embodiment of claim 10 is clearly distinguishable over the teachings of Schleinz, as the reference is silent with respect to the use of such webs.

The Examiner newly-cites the JP '755 reference to teach the use of filled protrusions not otherwise taught by the cited references.

The '755 publication discloses a non-woven fiber comprised of a layer of heat-shrinkable fibers and a layer of non-heat shrinkable fibers. The respective layers are bonded together by heat welding. The '755 publication is directed to a non-woven fabric and a female member of a surface fastener. However, the disclosed non-woven fabric does not include elastomeric fibers as recited by Applicant's claims. Indeed, the fabric of the '755 publication is intended to not be elastic in nature. Claim 1 is amended to make clear that the claimed fabric has a recovery of 50% or more from 50% extension.

It is thus illogical to combine the teachings of the '755 publication with the teachings of the other cited references.

Further, the limitations of claim 5 directed to the use of latent crimping fibers are incorporated into claim 1. As claim 5 is not under rejection based on the teachings of the cited references, claims 1-3 and 10 are accordingly patentable over the combined teachings of same.

Claim 1 is further amended to state that the second layer is a web formed by carding.

In view of the above, the rejection is without basis and should be withdrawn.

**Rejection of Claims 5-7, 11-13, 15, 17-19, 20-24 and 27
under 35 USC 103(a)**

Claims 5-7, 11-13, 15, 17-19, 20-24 and 27 stand rejected as being unpatentable under 35 USC 103(a) as being unpatentable over Vander Wielen in view of Schleinz, Zelazoski et al, and JP 09-003755. This rejection respectfully is traversed to the extent deemed to apply to the claims as amended.

In response, claims 5, 22, 23 and 27 are cancelled, and claim 7 amended to be consistent with the amendment of claim 1.

The deficiencies of the Vander Wielen, Schleinz and JP '755 references are discussed above. The additional citation of Zelazoski et al does not overcome such deficiencies. Indeed, the mere application of Zelazoski to teach the presence of "perforations" in claim 6 does nothing to address the inadequacies of the primary references.

Claim 7 is directed to an absorbent article comprised of a liquid-permeable topsheet, a liquid-impermeable backsheet, and an absorbent member (as defined by claim 1). Claim 7 provides for the presence of fiber-filled protrusions in the first layer

consistent with claim 1. As discussed above, none of the cited references teaches or suggests the absorbent article of claim 7 having such a structure.

The rejection is thus without basis and should be withdrawn.

Objection to Claim 27

Claim 27 stands objected to on the ground that it is not clear how claim 27 differs from claim 18 in further limiting claim 7. In response, claim 27 is cancelled. The objection is thus moot and should be withdrawn.

Rejection of Claims 1 and 10 under 35 USC 102(b)

Claims 1 and 10 stand rejected under 35 USC 102(b) as being anticipated by JP 09-003755. This rejection respectively is traversed to the extent deemed to apply to the claims as amended.

In response, the limitations of non-rejected claims 3 and 5 are inserted into claim 1. This rejection is thus without basis and should be withdrawn.

Provisional Double Patenting Rejection

Claims 1-3, 5-7, 10-13, 15, 17-24 and 27 stand provisionally rejected under the ground of the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 7, and 10 of copending application No. 10/372,205.

In response, applicants will endeavor to maintain a line of distinction between the respective claims of the two applications in an attempt to address this rejection.

The application is now believed to be in condition for allowance and an early indication of same is earnestly solicited.

In the event that any outstanding matters remain in this application, Applicants request that the Examiner contact James W. Hellwege (Reg. No. 28,808) at (703) 205-8000 to discuss such matters.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant(s) respectfully petition(s) for a one (1) month extension of time for filing a reply in connection with the present application, and the required fee of \$120.00 is attached hereto.

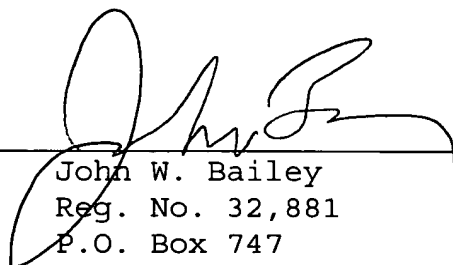
If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit

any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Very truly yours,

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